

REMARKS/ARGUMENTS

The amendments to the claims are supported by the claims as originally filed and by the application as originally filed. See, e.g., pages 7 to 9, 17 to 18 and reference numbers 13 and 23 in the figures.¹

Attached hereto is a **Terminal Disclaimer** over the three copending applications noted in the provisional double patenting rejection appearing at page 5 of the Official Action. While applicant disagrees with these rejections, the attached Terminal Disclaimer moots this rejection.

The rejection over Gavin in view of Haikarainen, optionally in view of Trofast, is traversed.

Gavin concerns a pharmaceutical formulation that constitutes a combination of (R,R,-)formoterol and budesonide for use in medicine and especially in the prophylaxis and treatment of respiratory diseases (page 3, ff). Gavin describes the pharmaceutical formulation as a bulk supply, i.e. a large batch of the two medicaments mixed together, from which a pharmacist takes a patient's supply and provides as patient package (page 5, lines 5ff).

Gavin mentions that different administration techniques can be used, including inhalation of the combined formulation as fine particles (page 6). In this case, the two active ingredients are brought into association with a carrier by uniformly and intimately bringing

¹ For example, The wording "pre-metered" in the new claims is supported in the application as filed, where it is described that two active medicaments are metered and deposited on a common dose bed and then sealed to protect them from moisture. This means that the medicaments are metered and deposited and sealed during a manufacturing process (page 9, line 17 – page 10, line 20).

into association the active ingredients with liquid carriers or finely divided solid carriers (pages 6-7).

The only example given by Gavin and which is of relevance to the present invention is Example 3, which relates to usage of the formulation in dry powder inhalers. Here it is clearly stated that the (R,R)-formoterol fumarate and budesonide active ingredients are micronized and bulk blended with the lactose excipient. The resulting blend can then be filled in hard gelatin capsules, cartridges or double foil blister packs.

Thus, Gavin clearly teaches mixing the two active ingredients, which also follows from his usage of the wording “formulation,” and filling the powder mixture into blister packs or other medicament cartridges. This is in clear contrast to the present invention as defined in the new claims, where the two active ingredients are metered and deposited separately onto a common dose bed. Gavin therefore does not teach or even suggest anything falling within the scope of the new claims.

Haikarainen discloses a multi-dose dry powder inhaler, wherein the inhaler comprises two medicament containers, each containing a supply of dry medicament powder corresponding to a multitude of metered doses (page 3, lines 21–23). In connection with an inhalation, medicament powder from the two containers is transferred to a metering member equipped with two dosing recesses for receiving a metered dose of the respective powdered medicament (page 3, lines 23-25). The inhaler then has two aerosolization channels, each positioned over one of the two recesses (page 2, lines 29-31, page 4, lines 29-31). The metered doses are discharged simultaneously through the different aerosolization channels and are mixed first in the user’s air channel or respiratory tract (page 2, lines 27-29)

The present invention as defined by the new claims is very different from Haikarainen. Firstly, the present invention is limited to a pre-metered combined dose of at least two medicament powders separately deposited onto a common dose bed, where the combined

dose is introduced into an inhaler device. The combined dose is further sealed to prevent the dose, up to the inhalation instance, from any ingress of moisture that otherwise will deleteriously affect the medicament powders. Thus, the pre-metered combined dose is released and aerosolized from the dose container directly, without first being removed from the container and brought to a new position inside the DPI from where the aerosolization takes place, as in Haikarainen.

Usage of a multi-dose container as Haikarainen has several drawbacks compared to the pre-metered combined dose of the present invention. Over time, a gradient of the medicament powders is created in the two multi-dose containers. Thus, an unwanted distribution and separation of powder particles with different dimensions and sizes is obtained. This in turn leads to differences in the compositions of the doses delivered over time and it will not be possible to deliver exact and consistent doses that contain a same powder composition (in terms of powder particle sizes) at each and every inhalation procedure. As a consequence, the doses delivered by an inhaler according to Haikarainen will behave differently in the user's respiratory tract system and will become deposited at different locations in the respiratory tract/lung.

Furthermore, it is extremely difficult if not nearly impossible to keep a low moisture level in and prevent moisture from entering the relatively large multi-dose containers used in Haikarainen. As a consequence, moisture will cause the powder particles to agglomerate and aggregate into larger clusters, which in turn affects the gradient and size distribution discussed above, and makes it very hard to delivery fine particles at the desired location in the user's respiratory system.

It is thus submitted that the combination of Gavin and Haikarainen fail to teach the present invention. Gavin clearly teaches mixing the two active ingredients, while Haikarainen uses totally different techniques as compared with the present invention for

administering a combination of medical dry powder doses. The present invention as defined by the new claims is therefore novel and non-obvious over Gavin and Haikarainen. Trofast, cited for its disclosure of ciclesonide, fails to make up for that lacking in Gavin and Haikarainen.

As shown by the above analysis of the references, no reference alone or in combination with any other reference renders the present claims unpatentable. There is no disclosure of the claimed subject matter, nor is the claimed subject matter rendered obvious. For these reasons the rejections should be withdrawn.

In view of the attached Terminal Disclaimer and above amended new claims and remarks, this case is now in condition for allowance. Early notification to this effect is respectfully requested.

Respectfully submitted,

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